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ABSTRACT

Thirty-eight regular classroom teachers took a college-level course in the identification of handicapped children via computer-assisted instruction at the beginning of the 1971 school year. During the following summer they received a 16-item questionnaire to determine their feelings about the course content, computer-assisted instruction, and the effect of the course on their teaching behavior. Thirty-one teachers responded to the questionnaire. Results indicated positive reaction to the course, the means of delivery, and the effect it had on the teachers' ability to identify handicapped children in their classrooms. (A copy of the questionnaire and results are included in the text.) (Author)

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FOLLOW-UP EVALUATION OF A COMPUTER ASSISTED INSTRUCTION COURSE ON THE EARLY IDENTIFICATION OF HANDICAPPED CHILDREN[1]

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Abstract

Thirty-eight regular classroom teachers took a college level course in the identification of handicapped children via computer assisted instruction at the beginning of the 1971 school year. During the following summer they received a 16-item questionnaire to determine their feelings about the course content, computer-assisted instruction, and the effect of the course on their teaching behavior. Thirty-one teachers responded to the questionnaire. Results showed a very positive reaction to the course, the means of delivery, and the effect it had on the teachers' ability to identify handicapped children in their classrooms.

FOLLOW-UP EVALUATION OF A COMPUTER ASSISTED INSTRUCTION COURSE ON THE EARLY IDENTIFICATION OF HANDICAPPED CHILDREN[1]

S. J. Vitello, R. Sedlak, and A. Peck

CARE 1 (Computer Assisted Remedial Education: Part 1, Early Identification of Handicapping Conditions in Children) is a three-credit, college-level course taught by computer assisted instruction (CAI). The course reaches approximately 1,000 educators per year by means of a mobile computer assisted instruction laboratory. The purpose of using a mobile facility is to provide high quality inservice training to educators who work in areas distant from a college or university.

The primary general objective of the course is to sensitize regular classroom teachers to subtle handicapping conditions in children which can interfere with learning. Through early identification of these conditions, children can be helped and the possibility of a handicapping condition affecting learning can be minimized or remedied. Forming the core of the course is the Decision Model for the identification of handicapped children. In the course, teachers are taken through the Decision Model step by step and are subsequently required to apply the Model in three case study simulations.

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In addition to the Decision Model, the course also stresses the objective observation of behavior and includes extensive descriptions of those behaviors which may be symptomatic of handicapping conditions. A complete discussion of the course content including the Decision Model may be found elsewhere (Cartwright and Cartwright, 1971; Villwock, Cartwright, and Cartwright, 1971).

The mobile CAI delivery system (Lehmann, 1971) consists of a complete IBM 1500 Instructional System housed within a trailer with expandable sides. The van is left in an area for a period of time (usually 6 to 8 weeks) while local educators are taking the course. Scheduling is flexible since the van operates on a six-day week from 9:00 a.m. to 11:00 p.m. Students may register for terminal usage anytime within this period. Students who successfully complete the course receive three credits of EEC 400, Education of Exceptional Children, from The Pennsylvania State University. Additional information on the delivery system can be found by referring to Lehmann (1971) and Cartwright and Cartwright (in press).

The course has been subjected to both formative and summative evaluation prior to its widespread dissemination. The formative evaluation involved the analysis of thousands of student records which had been gathered by students taking the course for the purpose of "debugging". Detailed descriptions of the formative evaluation and course planning procedure have been documented elsewhere (Cartwright and Mitzel, 1971; Palmer, Shea, and Cartwright, 1971). The summative evaluation conducted by Cartwright, Cartwright, and Robine (1972) contrasted the efficiency and effectiveness of CAI with conventional instruction (lecture-discussion) as modes for course presentation.

During the summer of 1971 an attempt was made to assess the impact of the course in terms of teachers' behavior in their classrooms following course completion by means of a structured telephone interview (unpublished study).

While the results of this survey were quite favorable, a fundamental problem was that the teachers in the sample had taken the course near the end of the school year and did not have an opportunity to extensively use the philosophy of CARE 1. The present study sought to overcome this shortcoming by selecting a group of teachers who had taken the course at the beginning of the school year. The group selected had a full year to implement the knowledge and identification skills they had acquired.

The purpose of the present study was three-fold:

1. To determine teachers' feelings about the CARE course approximately one year after taking it;
2. To determine teachers' feelings toward CAI and the delivery system; and
3. To determine the effect of CARE 1 in terms of teachers' reported ability to identify handicapped children.

Procedures

141 took the CARE 1 course in September and October of 1971. They included administrators, special class teachers, and regular class teachers. The present study was interested in following-up only the regular classroom teachers. Thirty-eight preschool and elementary grade teachers were mailed a 16-item questionnaire which dealt with the CARE 1 course and the CAI mobile delivery system. The questionnaire was designed to elicit responses which would determine whether the course resulted in changes in teacher behavior. Most of the questions required "yes" or "no" responses. However, there was also space for comments or explanations after a number of the questions.

The teachers were given the option of being called and interviewed by phone or of completing the questionnaire and returning it by mail. It was felt that such a system would insure a high response rate. A three-week period in July and August of 1972 was used for the collection of this data.

Results

Thirty-one teachers responded to the questionnaire, 17 by mail and 14 by telephone. This represents 82 percent of questionnaires returned. The remaining seven teachers could not be contacted after several attempts. The results of the questionnaire are recorded in Table 1.

Table 1

Percentage of Yes and No

Responses to Questionnaire

1. Would you say that before taking the course you were aware of individual differences in children?

   Yes 94% No 6% $p < .05$*

2. Would you say that after taking the course you were more aware of individual differences in children?

   Yes 94% No 6% $p < .05$

3. Were you aware of the behaviors which are signs of potential learning problems before you took CARE 1?

   Yes 65% No 35% $p < .05$

4. As a result of taking the course, do you feel better able to identify behaviors which may be signs of potential learning problems?

   Yes 100% No 0% $p < .05$

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*p value derived from binomial test (Siegel, 1956, p. 247).

5. Did you survey your class to find out who may have learning problems?

Yes 84% No 16% $p < .05$

6. Before taking the course, did you have a procedure for referring children for further educational diagnosis?

Yes 74% No 26% $p < .05$

7. As a result of taking this course, have you adopted the course decision model (page 4 of Handbook) for making educational referrals?

Yes 77% No 23% $p < .05$

8. Have you referred any children to another professional for further diagnosis since September?

Yes 87% No 13% $p < .05$

9. How many were referred for disciplinary problems 17 academic problems 49 and physical problems 38 ?

$\bar{X}$ Total No. of Referrals = 3

10. Do you think that the CARE course influenced the referrals that you made?

Yes 84% No 16% $p < .05$

11. Would you take another course by CAI?

Yes 100% No 0% $p < .05$

12. Would you recommend that a colleague take the CARE 1 course?

Yes 100% No 0% $p < .05$

13. Could you have used more assistance while taking the course?

Yes 32% No 68% $p < .05$

14. Did you have questions about the course that

(a) could not be asked

Yes 16% No 84% $p < .05$

(b) did not get answered

Yes 10% No 90% $p < .05$

15. Did you have difficulty scheduling terminal time?

Yes 77% No 23% $p < .05$

16. Did you find that CAI was a more convenient way of taking the course than attending classes at a local college or university?

Yes 100% No 0% $p < .05$

A further analysis of the data revealed no significant differences between the responses received by mail and those received by telephone.

Discussion

The results of this study argue strongly for the increased use of computer assisted instruction (CAI) as a method for providing inservice training for elementary school teachers toward increasing their ability to iden ify handicapped children.

All the teachers questioned indicated that they were significantly better able to identify behaviors which may be signs of potential learning problems (Question 4). This ability is reflected in the average number of referrals (3) made by the teachers during the school year. This figure would be more meaningful if we had the average referral rate of the teachers prior to taking the course. However, this information was not obtained. A majority of the teachers (77 percent) adopted the course decision model for making educational referrals and felt that the information obtained from the CARE course influenced the referrals that they made (84 percent).

Thirty-two percent of the teachers stated they could have used more assistance while taking the course. The teachers stated that the assistance needed resulted from intermittent machine malfunctions, not from difficulty with the material presented. Considerable difficulty was experienced in scheduling terminal time (77 percent). This can be attributed to the shorter

period of time the van was at this particular location (5 weeks as opposed to the usual 6 to 8 weeks). With the extended period the difficulty experienced in scheduling can be reduced.

There was an overwhelming preference (100 percent) for the CAI course over traditional courses given at the local college or university primarily because of the convenience of this method and the constant interaction in the learning process. All the teachers stated they would take another course by CAI if offered and would recommend that a colleague take the CARE 1 course.

In summary, the offering of a course via CAI concerned with the early identification of handicapped children has been evaluated favorably by a sample of elementary school teachers and as reported appears to be positively effecting their classroom behavior. A recent court decision in Pennsylvania (PARC vs. Pennsylvania, 1971) holds that state responsible for the public school education of all handicapped children. Preferably this education should take place in the regular class. It can be predicted that similar decisions will be made in other states. This will mean that an increasing number of public school personnel will have to become more knowledgeable in identifying the handicapped and planning their educational programs. The design of courses like CARE 1 and the use of CAI offer a valuable means in disseminating information about the handicapped in an effective and efficient manner.

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